

1                   VEHICLE UMBRELLA HOLDER  
23                   BACKGROUND OF THE INVENTION  
45       1. Field of the Invention  
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This invention relates broadly to umbrella holders. More particularly, this invention relates to umbrella holders for vehicles.

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9       2. State of the Art  
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As can be seen with reference to U.S. Patent Nos. 4,445,720 to Leaf et al., 5,803,325 to Wang, and 6,095,388 to Neville, Sr., European patent application 89123604.4 to Costantino, and Japanese patent application numbers 2000279368 to Mitsuji et al., 54127152 to Masao, 11284654 to Toshio, 06245779 to Toshihiro, 08205183 to Minoru, and 63150804 to Itsuo, the prior art is replete with numerous umbrella holders for vehicles. While these holders have been proposed for various parts of the vehicle, including built-in holders inside the dashboard, on the car door, on a cabin pillar, on a side spoiler, etc., or fastenable holders for location between the front seats, on a seat, or on a rear deck, none of them have found acceptance commercially. It is believed that the lack of commercial acceptance with respect to built-in holders relates to the limitation of space in the cabin of the vehicles, and the extra costs associated with providing a passageway for water to drain to outside the vehicle. It is further believed that the lack of commercial acceptance with respect to the fastenable holders relates to the generally inconvenient locations to which they are fastened.

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2                   SUMMARY OF THE INVENTION

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4       It is therefore an object of the invention to provide an umbrella holder for a  
5       vehicle which is small in size and fastenable to locations convenient for the user of the  
6       vehicle.

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8       It is another object of the invention to provide an umbrella holder which is  
9       designed to be fastenable to a wide variety of interior surfaces of a vehicle, such as  
10      curved surface, flat surfaces, sun-visors and seats.

11

12      In accord with these objects, which will be discussed in detail below, the vehicle  
13      umbrella holder comprises a substantially flat elongate base plate and a cover removably  
14      attached to the base plate to form a cavity therebetween for holding and supporting an  
15      umbrella. Preferably, the cover has a curved wall with one end open and the other end  
16      closed by an end wall. The base plate comprises a plurality of mounting interfaces that  
17      are adapted to mount the base plate to a wide variety of interior surfaces of a vehicle.  
18      Preferably, the base plate and cover are made of hard plastic material. A foam or sponge  
19      may be operably disposed in the cavity. According to preferred aspects of the invention,  
20      the mechanisms for mounting the base plate to the interior surface of the vehicle  
21      comprise adhesive-based mounting brackets, holes that are adapted to engage stretchable  
22      cord-like material (e.g., bungee cords), screw holes that are adapted to receive mounting  
23      screws therethrough, and possibly one or more hook and loop fastener elements. Such

- 1 mechanisms enable the umbrella holder to be securely mounted to curved surfaces, flat
- 2 surfaces, a sun-visor, or a seat within the vehicle.

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4 Additional objects and advantages of the invention will become apparent to those  
5 skilled in the art upon reference to the detailed description taken in conjunction with the  
6 provided figures.

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## BRIEF DESCRIPTION OF THE DRAWINGS

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10 FIG. 1 is an exploded view of an umbrella holder and various mounting elements  
11 in accordance with present invention and with an umbrella contained within the holder.

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13 FIG. 2 is a top view of the umbrella holder of FIG. 1 with the mounting brackets  
14 affixed to the base plate of the holder, and with an umbrella contained therein.

15

16 FIG. 3 is a front view of the umbrella holder of FIG. 1 with an umbrella contained  
17 therein.

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19 FIG. 4 is a perspective view of the umbrella holder of FIG. 1 with an umbrella  
20 contained therein.

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22 FIG. 5 is a side view of the umbrella holder of FIG. 1 with the mounting brackets  
23 affixed to the base plate of the holder, and with an umbrella contained therein.

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2 FIG. 6 is a side view of the umbrella of FIGS. 1 - 5.

3

4 FIG. 7 is a pictorial illustration of a mounting interface that uses adhesive-based  
5 brackets to mount the base plate to a curved interior surface (e.g., an under dash surface)  
6 of a vehicle.

7

8 FIG. 8 is a view of the base plate of FIG. 1 in accordance with the present  
9 invention.

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11 FIG. 9 is a pictorial illustration of a mounting interface that uses screws to mount  
12 the base plate to a flat interior surface of a vehicle.

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14 FIG. 10 is a partial view of a mounting interface that uses stretchable cord-like  
15 material (e.g., bungee cords) to mount the base plate to an interior surface of a vehicle.

16

17 FIG. 11 is a pictorial illustration of a mounting interface that uses stretchable  
18 cord-like material (e.g., bungee cords) to mount the base plate to a sun-visor of a vehicle.

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20 FIGS. 12A and 12B are pictorial illustrations of mounting interfaces that use  
21 stretchable cord-like material (e.g., bungee cords) to mount the base plate to a seat of a  
22 vehicle.

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1           DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

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3           Turning to FIGS. 1-6, an umbrella holder 10 in accordance with the present  
4 invention is seen. The holder 10 includes a flat elongate base plate 12 and an elongate  
5 cover 14 which are preferably formed by molding a hard plastic material as is well  
6 known. The elongate cover 14 has a curved wall 16 preferably having a substantially  
7 half-tube shape as shown. One end 18 of the cover is open, while the other end 20 of the  
8 cover is closed by an end wall 22. A sponge 24 (or water-absorbable foam), preferably of  
9 rectangular shape as shown, is operably disposed adjacent the end wall 22 of the cover  
10 14. Alternatively, a sponge (or water-absorbable foam) can be shaped as a wipe located  
11 adjacent the open end 18 as shown in U.S. Application No. 10/361,422, filed on February  
12 10, 2003, the complete description of which is hereby incorporated by reference herein.  
13 Preferably, the cover 15 has one or more openings therethrough (for example, the eight  
14 slots 25A, 25B, 25C, 25D, 25E, 25F, 25G, 25H as best shown in Fig. 3) that enables air  
15 to enter into the internal cavity of the holder 10 to promote drying of water that may exist  
16 on the umbrella supported therein and on any of the surfaces therein. Such drying also  
17 helps to prevent mildew formation on the umbrella supported therein.

18

19           The cover 14 is removably mated to the base plate 12 to form an internal cavity  
20 therebetween. Preferably, the cover 14 is removably mated to the base plate 12 by three  
21 interfaces. The first interface is formed by a slot 26 disposed at one end of the base plate  
22 12 that accepts an end tab 28 preferably disposed along an edge of the end wall 22 of the  
23 cover 12 as shown. The second and third interfaces are formed by side tabs 30A, 30B

1 disposed toward the other end of base plate 12. The side tabs 30A, 30B project from  
2 opposite sides of the base plate 12 and engage corresponding side holes 32A, 32B  
3 disposed on opposite sides of the section of the curved wall 16 adjacent the open end. In  
4 this configuration, the cover 14 is attached to the base plate 12 by inserting the end tab 28  
5 into the slot 26 and rotating the cover 14 such that side tabs 30A, 30B engage the side  
6 holes 32A, 32B. The cover 14 is detached from the base plate 12 by squeezing the sides  
7 of curved wall 16 to disengage the side tabs 30A, 30B from the side holes 32A, 32B and  
8 then removing the end tab 28 from the slot 26. The base plate 12 may also include a  
9 stretchable or elastic cord 34 disposed adjacent the top edge of the plate between two  
10 supports 36A, 36B as shown.

11

12 With the cover 14 attached to the base plate 12, an umbrella 40 may be inserted  
13 into the internal cavity such that the base plate 12 and cover 14 cooperate to support and  
14 hold the umbrella 40 as shown in FIGS. 2 through 5. The sponge 24 soaks up water that  
15 may drip off the umbrella 40. The stretchable cord 34 (when used) is slid over the handle  
16 of the umbrella 40 (as seen in Fig. 2) to ensure that umbrella 40 stays in place. To  
17 remove the umbrella 40 from internal cavity, the stretchable cord 40 (if used) is removed  
18 from around umbrella handle, and the umbrella handle is pulled in a direction away from  
19 the cover 14 and base plate 12. The sponge 24 may be removed from the cavity by  
20 detaching the cover 14 from the base plate 12. When the sponge 24 is removed, the user  
21 may squeeze the sponge 24 to remove water that it has collected.

22

1       The umbrella holder 10 preferably has a lengthwise dimension on the order of  
2       13.3 inches (FIG. 3) with a depth on the order of 2.5 inches on top (i.e., at the opening)  
3       and 2.79 inches on the bottom (i.e., at the closed end) (FIG. 5) without the mounting  
4       brackets 42A, 42B attached to the base plate. The mounting brackets, which are  
5       described in more detail below, preferably add another 0.5 inches to the depth when used  
6       (FIG. 5). The width of the umbrella holder 10 is preferably on the order of 4.45 inches  
7       on top near the entrance to the internal cavity (FIG. 2) and on the order of 3.06 inches at  
8       its bottom (FIG. 3). The umbrella 40 preferably has a lengthwise dimension on the order  
9       of 11.75 inches (FIG. 6). The handle of the umbrella preferably has a lengthwise  
10      dimension on the order of 1.75 inches and a diameter on the order of 1.55 inches (FIG.  
11      6).  
12

13      The elongate base plate 12 is adapted to provide a number of mounting  
14      mechanisms that enable the user to removably mount the base plate 12 (and the cover 14  
15      attached thereto) to a variety of interior vehicular surfaces, including curved surfaces  
16      (e.g., such as those surfaces typically found under the dash of a vehicle), flat surfaces  
17      (e.g., such as those surfaces typically adjacent the center console of a vehicle), a vehicle's  
18      sun visor, and to the back or side of a vehicle's seat. With the base plate 12 and cover 14  
19      mounted to the desired interior vehicular surface, the umbrella 40 may be inserted into  
20      the internal cavity between the base plate 12 and cover 14 as described above such that  
21      the umbrella 40 is supported in place in the interior of the vehicle.

22

1       For installations onto curved surfaces of a vehicle's interior, a plurality of  
2       mounting brackets 42A, 42B are preferably provided. Each bracket (42A, 42B) has a  
3       substantially flat adhesive pad 44 and a pair of mounting tabs 46A, 46B (one is shown in  
4       the side view of FIG. 5) that extend from the adhesive pad 44 and engage a pair of  
5       mounting slots 48A, 48B in the elongate base plate 12. Preferably, the mounting tabs  
6       46A, 46B provide projections (not shown) that snap into the corresponding base plate  
7       slots. The adhesive pad 44 preferably has a release paper layer (not shown) that protects  
8       the adhesive material thereunder as is well known. The mounting tabs 46A, 46B and  
9       slots 48A, 48B provide hinged interfaces and clearance that enable the mounting brackets  
10      and base plate to be effectively mounted to a wide variety of curved surfaces. For  
11      example, the hinged interfaces can tilt at different angles to mount onto concave surfaces,  
12      convex surfaces or a wide variety of other curved surfaces. Preferably, there are a  
13      plurality of mounting slot pairs 48A, 48B (for example, 4 shown) disposed along the  
14      elongate dimension of the base plate 12 that enable the mounting brackets to engage the  
15      elongate base plate 12 at different positions. This also enables the mounting brackets and  
16      base plate 12 to be effectively mounted to a wide variety of curved surfaces. In this  
17      configuration, the mounting brackets 42A, 42B are preferably affixed to the curved  
18      surface(s) by first cleaning the surface(s) with isopropyl alcohol or other appropriate  
19      cleaner. The mounting brackets 42A, 42B are inserted into (and engaged to) the desired  
20      mounting slots in the base plate 12. The release paper is removed from the adhesive pad  
21      44 of the mounting brackets 42A, 42B. The user then presses the mounting brackets/base  
22      plate against the curved interior surface(s) of the vehicle for a predetermined time period  
23      (e.g., on the order of 1 minute) as shown in FIG. 7. The user then waits for the adhesive

- 1 to set (for example, for a five minute period) before affixing the cover 14 to the base plate
- 2 12 as discussed above.

3

4       Installations onto flat surfaces of a vehicle's interior can be accomplished with the  
5 same steps as described with respect to installation on curved surfaces. Alternatively, the  
6 adhesive-based mounting brackets may be substituted by screws that are screwed through  
7 mounting screw locations (for example, the six shown as 50A, 50B, 50C, 50D, 50E, 50F  
8 in FIG. 8) into holes drilled into the flat surface as shown in FIG. 9.

9

10      For sun-visor installations, two bungees 52A, 52B (or other stretchable cord-like  
11 material) with looped ends are preferably provided as shown in FIG. 1. Preferably, the  
12 two bungees 52A, 52B are on the order of 12 inches in length. The looped ends of each  
13 bungee (52A, 52B) fit through and mate to respective key-shaped hole pairs 54A, 54B  
14 provided in the base plate 12 for each bungee as shown in FIGS. 8 and 10. After  
15 installing the looped ends of the bungees 52A, 52B through the respective key-shaped  
16 hole pairs, the two bungees are stretched around the sun-visor 56 as shown in FIG. 11.  
17 Alternatively, the bungees 52A, 52B are first fit through one of the key-hole pairs, looped  
18 around the visor 56, and then fit through the other keyhole pair.

19

20      For seat installation, two bungees 58A, 58B (or other stretchable cord-like  
21 material) with a looped end and a hooked end are preferably provided as shown in FIG. 1.  
22 One of the two bungees 58A is preferably on the order of 6 inches in length while the  
23 other bungee 58B is preferably on the order of 12 inches in length. The looped ends of

1 the bungees 58A, 58B fit through and mate to two u-shaped holes 60A, 60B provided in  
2 the base plate 12 as shown in FIGS. 8 and 10. One of the two u-shaped holes (hole 60A)  
3 is disposed near the top of the base plate 12, while the other 60B is disposed near the  
4 bottom of the base plate 12. The looped end of the shorter bungee 58A is inserted into  
5 and mated to the top u-shaped hole 60A, and the hook of the hooked-end of the bungee  
6 60A is affixed about a head rest post 62 (or other mounting point in the vehicle) as shown  
7 in FIGS. 12A and 12B. The looped end of the longer bungee 58B is inserted into and  
8 mated to the bottom u-shaped hole, and the hook the hooked end of longer bungee 58B is  
9 affixed to a portion of the bottom seat frame as shown in FIGS. 12A and 12B. In this  
10 configuration, the base plate 12 may be mounted to the back or side of a seat as shown. It  
11 is also contemplated that other mounting points may be used, such as between a wardrobe  
12 hanger and bottom seat frame.

13

14       Alternate mounting means may be provided for mounting the umbrella holder 10  
15 to a surface of the vehicle. For example, the mounting means may include includes hook  
16 and loop fastener elements such as VELCRO. In this configuration, a first VELCRO  
17 member is glued or otherwise fixedly attached to the back of the base plate 12. A second  
18 VELCRO member of approximately the same size as the first VELCRO member and  
19 having a glue surface (preferably covered by removable paper) is preferably provided so  
20 that the owner of the vehicle can strip the paper off of the glue surface and attach the  
21 second VELCRO member to a desired surface of the vehicle. The surface can be a  
22 surface which is most desirable to the vehicle owner such as the dash board, a door, a car  
23 seat, etc.

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2       There have been described and illustrated herein several embodiments of an  
3       umbrella holder suitable for use in a vehicle. While particular embodiments of the  
4       invention have been described, it is not intended that the invention be limited thereto, as  
5       it is intended that the invention be as broad in scope as the art will allow and that the  
6       specification be read likewise. Thus, while particular sizes have been disclosed, it will be  
7       appreciated that the umbrella holder of the invention may be manufactured to be various  
8       sizes. In addition, while a particular sponge arrangement has been disclosed, it will be  
9       understood that the sponge can be different shapes and disposed in other parts of the  
10      internal cavity of the holder (for example, it may include a portion which constitutes the  
11      wipe adjacent the opening of the cavity). Also, while different means for attachment of  
12      the umbrella holder to a variety of vehicular surfaces has been described, it will be  
13      appreciated other mechanisms can be readily used, such as straps or other fasteners.  
14      Further, while the umbrella holder has been described with reference to "top" and  
15      "bottom" components, it will be appreciated that words such as "top" and "bottom" are  
16      relative terms which are not intended to be limiting as to how the holder is positioned in  
17      the vehicle. It will therefore be appreciated by those skilled in the art that yet other  
18      modifications could be made to the provided invention without deviating from its spirit  
19      and scope as claimed.